

Serial No. 09/878,321
Amendment dated November 4, 2003
Reply to Office Action of August 6, 2003

Docket No. K-0293

IN THE CLAIMS:

1. (Currently Amended) An electron gun in a cathode ray tube (CRT) comprising:
 - a plurality of stem pins for applying different voltages;
 - an acceleration electrode, a third electrode, a fourth electrode, and a static electrode for forming pre-focus lenses;
 - a dynamic electrode and an anode for forming a main focus lens, the dynamic and static electrodes forming a quadrupole lens;
 - a bead glass for holding the foregoing electrodes at fixed distances; and
 - a wire having one end welded to in contact with the third electrode, the other end welded to in contact with a stem pin applying a dynamic voltage, and a body of the wire between the one end and the other end of the wire, wherein the body of the wire is arranged so as not to pass through a space formed between an outer surface of the bead glass closest to an inner surface of a neck tube of the CRT and an inner surface of a neck tube of the cathode ray tube closest to the bead glass.

2. (Currently Amended) An electron gun in a cathode ray tube (CRT) comprising:
 - a plurality of stem pins for applying different voltages;

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an acceleration electrode, a third electrode, a fourth electrode, and a static electrode for forming pre-focus lenses;

a dynamic electrode and an anode for forming a main focus lens, the dynamic and static electrodes forming a quadrupole lens;

first and second bead glasses for holding the foregoing electrodes at fixed distances;

a first wire having one end ~~welded to~~ in contact with the dynamic electrode, the other end ~~welded to~~ in contact with a first stem pin [[for]] applying a dynamic voltage, and a first body of the first wire between the one end and the other end; and

a second wire having one end ~~welded to~~ in contact with the third electrode, the other end ~~welded to~~ in contact with a second stem pin ~~for~~ applying a static voltage, and a second body of the second wire between the one end and the other end, wherein the first and second wires are arranged so as not to pass through a space formed between an outer surface of each of the bead glasses ~~and~~ closest to an inner surface of a neck tube of the cathode ray tube ~~and the inner~~ surface of the neck tube of the cathode ray tube closest to the bead glasses.

3. (Cancelled)

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4. (Previously Presented) The electron gun of claim 1, wherein the body of the wire has a straight portion extended from the one end of the wire to beyond an end of the bead glass, and a bent portion connecting the straight portion to the other end of the wire.
5. (Previously Presented) The electron gun of claim 4, wherein the straight portion of the wire extends in parallel with the bead glass.
6. (Currently Amended) The electron gun of claim 4, wherein the ~~straight portion of~~ the wire is not in contact with the bead glass.
7. (Currently Amended) The electron gun of claim 4, wherein the ~~bent portion of the~~ wire is ~~bent to an area outside of the area of the bead glass~~ only in contact with said electrode and said stem pin.
8. (Currently Amended) The electron gun of claim 1, wherein the third electrode has a higher voltage than the acceleration, fourth and static electrodes ~~bead glass has at least three sides, and wherein the body of the wire is arranged around less than three sides of the bead glass.~~

9. (Previously Presented) The electron gun of claim 1, wherein the body of the wire is arranged in parallel to only one side of the bead glass.

10. (Previously Presented) The electron gun of claim 2, wherein the first body has a first straight portion extended from the one end of the first wire and beyond an end of the first bead glass, and a first bent portion connecting the first straight portion to the other end of the first wire.

11. (Previously Presented) The electron gun of claim 10, wherein the second body has a second straight portion extended from the one end of the second wire and beyond an end of the second bead glass, and a second bent portion connecting the second straight portion to the other end of the second wire.

12. (Previously Presented) The electron gun of claim 11, wherein the first and second straight portions of the wires extend substantially in parallel with the first and second bead glasses, respectively.

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13. (Currently Amended) The electron gun of claim 11, wherein the ~~first and second straight portions of the wires~~ are not in contact with any one of the first and second bead glasses.

14. (Currently Amended) The electron gun of claim 11, wherein the ~~first and second bent portions are bent to an area outside of the areas of the first and second bead glasses~~ wires are only in contact with said electrodes and said stem pins.

15. (Previously Presented) The electron gun of claim 2, wherein each of the bead glasses have at least three sides and wherein each of bodies of the wires is arranged around less than three sides of each of the bead glasses.

16. (Previously Presented) The electron gun of claim 2, wherein each of the bodies of the wires is arranged in parallel to only one of the sides of one of the bead glasses.

17. (Currently Amended) An electron gun for a cathode ray tube (CRT), comprising:
a plurality of stem pins;
a plurality of electrodes comprising, a third electrode and a dynamic electrode with a higher voltage than a static grid, an acceleration electrode and a fourth electrode;

a bead glass that holds said electrodes at predetermined distances from one another;
and

a first wire having one end communicatively coupled to one of the third electrode
of the plurality of electrodes and the other end communicatively coupled to one of the plurality
of stem pins, wherein the bead glass has at least three sides, and wherein the wire is arranged
around less than three sides of the bead glass wherein the first wire is arranged so as to not pass
between a surface of the bead glass closest to an inner surface of a neck tube of the cathode ray
tube and the inner surface of a neck tube of the cathode ray tube.

18. (Currently Amended) The electron gun of claim 17, wherein said first wire
prevents contact noise wherein the wire is arranged in parallel to only one of the sides of the bead
glass.

19. (Currently Amended) The electron gun of claim 17, wherein the wire is arranged
so as to not pass between a surface of the bead glass closest to an inner surface of a neck tube of
the cathode ray tube and the inner surface of a neck tube of the cathode ray tube 18, wherein said
first wire prevents dark current flow.

20. (Currently Amended) The electron gun of claim 17, further comprising a second bead glass and a second wire, wherein the second wire has one end communicatively coupled to a ~~second~~ the dynamic electrode of the plurality of electrodes and the other end of the second wire is communicatively coupled to a second of the plurality of stem pins, wherein the second bead glass has at least three sides, and

wherein the second wire is arranged around less than three sides of the second bead glass.

21. (Currently Amended) The electron gun of claim 20, wherein the ~~second~~ wire is arranged in parallel to ~~only one of the sides of the second bead glass~~ first and second wires prevent contact noise and dark current flow.

22. (Previously Presented) A cathode ray tube comprising the electrode gun of claim 1.

23. (Previously Presented) The cathode ray tube of claim 22, wherein the cathode ray tube is a color cathode ray tube.

24. (Previously Presented) A cathode ray tube comprising the electrode gun of claim 2.

25. (Previously Presented) The cathode ray tube of claim 24, wherein the cathode ray tube is a color cathode ray tube.

26. (Previously Presented) A cathode ray tube comprising the electrode gun of claim 17.

27. (Previously Presented) The cathode ray tube of claim 26, wherein the cathode ray tube is a color cathode ray tube.

28. (New) A cathode ray tube comprising an electron gun, wherein said electron gun comprises:

an in-line multi-stage focusing electrode assembly including at least one wire connecting a first electrode and a stem pin applying dynamic voltage, wherein said wire reduces dark current in the electron gun, and wherein said wire is placed adjacent to but not in contact with a bead glass for reducing contact noise.

29. (New) The cathode ray tube of claim 28, wherein said first electrode comprises an electrode which conducts a voltage at least as high as any other electrode other than the cathode.